## We claim:

- 1 1. A method of transmitting information in a communication system having at least
- 2 one multiple antenna system, the method comprising the step of:
- 3 transmitting over N defined time periods long term information arranged in a
- 4 particular format and obtained from at least a portion of measured and/or calculated
- 5 received information where N is an integer equal to 1 or greater.
- 1 2. The method of claim 1 where the step of transmitting long term information
- 2 comprises the steps of:
- 3 receiving information over one or more communication channels of the
- 4 communication system;
- 5 measuring and/or calculating channel parameters from the received information;
- 6 obtaining long term information from the measured and/or calculated channel
- 7 parameters;
- 8 arranging the obtained long term information; and
- 9 transmitting the arranged long term information.
- 1 3. The method of claim 1 where the long term information is transmitted over a feed
- 2 back channel of the communication system.
- 4. The method of claim 1 further comprising the step of transmitting short term
- 2 information obtained from the measured and/or calculated received information.
- 5. The method of claim 1 where the long term information is transmitted by a base
- 2 station of a wireless communication system.

- 1 6. The method of claim 1 where the long term information is transmitted by a mobile that
- 2 is part of a wireless communication system.
- 1 7. The method of claim 1 where the communication system contains at least one MIMO
- 2 antenna system.
- 1 8. The method of claim 1 where the long term information comprises a correlation value
- 2 between at least a pair of antennas
- 9. The method of claim 1 further comprising transmitting short term information where
- 2 the long term information is used to inform a receiver which of a finite set of codes to use
- 3 to decode the transmitted short term information.
- 1 10. The method of claim 1 where the long term information comprises at least a portion
- 2 of a channel parameter value.
- 1 11. The method of claim 10 where the long term information is a 2-bit code representing
- 2 either a beam formed signal having a particular data rate or a MIMO signal having a
- 3 particular data rate and such long term information is transmitted over a feed back
- 4 channel of an EVDV communication system.
- 1 12. The method of claim 10 where the long term portion is a 3 bit code representing an
- 2 SNR threshold value.
- 1 13. The method of claim 10 where the long term portion comprises 3 bits representing
- 2 C/I decade values that are within a certain range.
- 1 14. A method of receiving information in a communication system having at least one
- 2 multiple antenna system, the method comprising:
- 3 receiving long term information arranged in a particular format and transmitted
- 4 over N defined time periods where N is an integer equal to 1 or greater.

- 1 15. The method of claim 14 further comprising the step of receiving short term
- 2 information related to the long term information.
- 1 16. The method of claim 15 further comprising the step of modifying information to be
- 2 transmitted based on the received long term and related short term information.
- 1 17. The method of claim 15 where a mobile receives the long term information and
- 2 related short term information.